Installation Manual
Installation & Appliance Set-Up

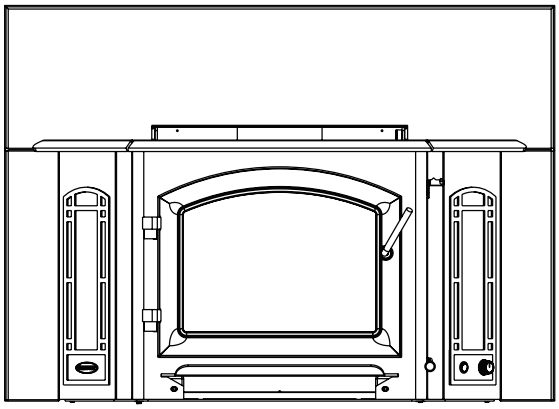
INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

QUADRA-FIRE®

3100-I ACC WOOD INSERT
Automatic Combustion Control (ACC)

Model(s):
31-I ACC



Tested and Listed by O-T-L Portland Oregon USA
C US
OMNI-Test Laboratories, Inc.

⚠ WARNING

Fire Risk.
For use with solid wood fuel only.
Other fuels may overfire and generate poisonous gases (i.e. carbon monoxide).

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends NFI certified professionals, or technicians supervised by an NFI certified professional.

⚠ WARNING

If the information in these instructions is not followed exactly, a fire may result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not overfire - If heater or chimney connector glows, you are overfiring. Overfiring will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.
- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- **High temperatures may ignite clothing or other flammable materials.**
- Keep clothing, furniture, draperies and other flammable materials away.

NOTE

To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com

Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

Safety Alert Key:

- ***DANGER!*** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- ***WARNING!*** Indicates a hazardous situation which, if not avoided may result in death or serious injury.
- ***CAUTION!*** Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.
- ***NOTICE:*** Indicates practices which may cause damage to the appliance or to property.

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1 Important Safety Information

A. Insert Certification

Model:	3100-I (ACC) Insert
Laboratory:	OMNI Test Laboratories, Inc.
Report No:	061-S-74-6.2
Type:	Solid Fuel Type, Listed Room Heater
Standard:	UL1482 and ULC S628-93 and (UM) 84-HUD, Mobile Home Approved.

NOTE: This installation must conform with local codes. In the absence of local codes you must comply with the UL1482, (UM) 84-HUD and NPFA211 in the U.S.A. and the ULC S628-93 and CAN/CSA-B365 Installation Codes in Canada.

B. BTU & Efficiency Specifications

EPA Certified:	2.0 grams per hour
Efficiency:	up to 79.8%
EPA BTU Output:	11,800 to 32,000
Heating Capacity:	up to 1800 sq ft depending on climate zone
Vent Size:	6 inches
Firebox Size:	1.9 cubic feet
Max Wood Length:	18 inches
Max First Hour BTUs:	57,100 @ 75.3% B415 Tested Efficienty
Fuel:	Cord Wood
Shipping Weight:	345 lbs

The Quadra-Fire 3100 Wood Insert (ACC) meets the U.S. Environmental Protection Agency's 1990 particulate emission standards.

C. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home with #8 copper ground wire, and chimney must be listed to UL103 HT or a listed UL-1777 full length six inch (152mm) diameter liner must be used.
- Outside Air Kit, part OAK-ACC must be installed in a mobile home installation.

D. Glass Specifications

This stove is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

Quadra-Fire is a registered trademark of Hearth & Home Technologies.

⚠ WARNING

Fire Risk.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Overfire - If appliance or chimney connector glows, you are overfiring.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

Hearth & Home Technologies WILL NOT warranty stoves that exhibit evidence of over-firing. Evidence of over-firing includes, but is not limited to:

- Warped air tube
- Deteriorated refractory brick retainers
- Deteriorated baffle and other interior components

E. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel	- Plaster
- Brick	- Iron
- Concrete	- Tile
- Glass	- Slate

Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals, in a Vertical Tube Furnace of 750° C.**

F. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Wood	- Compressed Paper
- Plant Fibers	- Plastic
- Plywood/OSB	- Sheet Rock (drywall)

Any material that can ignite and burn: flame proofed or not, plastered or un-plastered.

Install Guide

2 Getting Started

A. Design and Installation Considerations

CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Before installing, determine the following:

- Type of chimney connector to be used
  · single wall, 6 inch (152mm) diameter, stainless steel, or
  · double wall, 6 inch (152mm) diameter, stainless steel
- Consult page 28 for clearances to combustibles
- Power outlet located close by for optional blower

⚠ WARNING

Asphyxiation Risk.

- DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.
- DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

May allow flue gases to enter the house.

⚠ WARNING

Fire Risk.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Overfire - If appliance or chimney connector glows, you are overfiring.

Any such action that may cause a fire hazard.

B. Draft

Draft is the pressure difference needed to vent appliances successfully. When a appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

To be sure that your appliance burns properly:

- During a low burn, the chimney draft (static pressure) should be approximately -.04 inch water column (W.C.)
- During a high burn the chimney draft should be approximately -.10 inch (W.C.)
- Measure the W.C at 6 inches (152mm) above the top of the appliance after one hour of operation at each burn setting.

NOTICE: Hearth & Home Technologies assumes no responsibility for the improper performance of the appliance system caused by:

- Inadequate draft due to environmental conditions
- Downdrafts
- Tight sealing construction of the structure
- Mechanical exhausting devices
- Overdrafting caused by excessive chimney heights
- Ideal performance is with height of chimney between 14-16 feet (4.26-4.88m) measured from the base of the appliance.

C. Negative Pressure

WARNING

Asphyxiation Risk.

- Negative pressure can cause spillage of combustion fumes, soot and carbon monoxide.
- Appliance needs to draft properly for safety.

Negative pressure results from the imbalance of air available for the appliance to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water heaters and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the appliance
- Avoid installing the appliance near doors, walkways or small isolated spaces
- Recessed lighting should be a “sealed can” design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed
- Basement installations should be avoided

D. Tools And Supplies Needed

Before beginning the installation be sure the following tools and building supplies are available:

Reciprocating saw	Framing material
Pliers	High temp caulking material
Hammer	Gloves
Phillips screwdriver	Framing square
Flat blade screwdriver	Electric drill and bits
Plumb line	Safety glasses
Level	Tape measure
1/2-3/4 in. length, #6 or #8 self-drilling screws	
Misc. screws and nails	

E. Inspect Appliance and Components

- Remove appliance and components from packaging and inspect for damage.
- Vent system components and doors are shipped in separate packages.
- Report to your dealer any parts damaged in shipment.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**

WARNING

Fire Risk.

Inspect appliance and components for damage. Damaged parts may impair safe operation.

- Do NOT install damaged components.
- Do NOT install incomplete components.
- Do NOT install substitute components.

Report damaged parts to dealer.

F. Install Checklist

ATTENTION INSTALLER:

Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____

Date Installed: _____

Lot/Address: _____

Location of Fireplace: _____

Installer: _____

Dealer/ Distributor Phone #: _____

Serial #: _____

Model (circle one): 31I-ACC

WARNING! Risk of Fire or Explosion! *Failure to install fireplace according to these instructions can lead to a fire or explosion.*

Appliance Install	**YES**	**IF NO, WHY?**
Verified clearances to combustibles. (Pg. 8)	☐	
Fireplace is leveled and liner is secured to appliance. (Pg. 18)	☐	
Hearth extension size/height decided. (Pg. 22)	☐	
Outside air kit installed. (Pg. 16)	☐	
Floor protection requirements have been met.	☐	
The masonry chimney is inspected by a professional and is clean or the factory built metal chimney is installed according to the manufacturer's instructions and clearances.	☐	

Chimney Section 4 (Pg. 11)		
Chimney configuration complies with diagrams.	☐	
Chimney installed, locked and secured in place with proper clearance.	☐	
Chimney meets the minimum height requirements.	☐	
Roof flashing installed and sealed.	☐	
Terminations installed and sealed.	☐	

Clearances Section 3 (Pg. 7)		
Combustible materials not installed in non-combustible areas.	☐	
Verified all clearances meet installation manual requirements.	☐	
Mantels and wall projections comply with installation manual requirements.	☐	
Protective hearth strips and hearth extension installed per manual requirements.	☐	

Appliance Setup Section 5 (Pg. 16)		
All packaging and protective materials removed.	☐	
Firebrick, baffle and ceramic blanket installed correctly.	☐	
All labels have been removed from the door.	☐	
All packaging materials are removed from inside/under the fireplace.	☐	
Manual bag and all of its contents are removed from inside/under the fireplace and given to the party responsible for use and operation.	☐	

Hearth & Home Technologies recommends the following:

- Photographing the installation and copying this checklist for your file.
- That this checklist remain visible at all times on the fireplace until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/Builder/Other Trades, etc.) and corrective action needed:

Comments communicated to party responsible _____ by _____ on _____

(Builder/Gen. Contractor) (Installer) (Date)

Part # 4017-254 • Rev B • 01/29/13

3 Dimensions and Clearances

A. Appliance Dimensions

NOTE: Flue Collar size is 6 inch (152mm) diameter (ID)

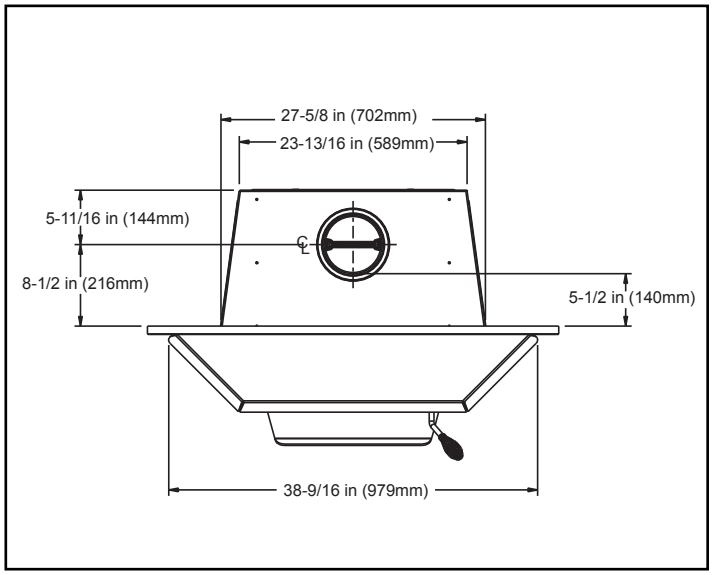


Figure 7.1 Top View

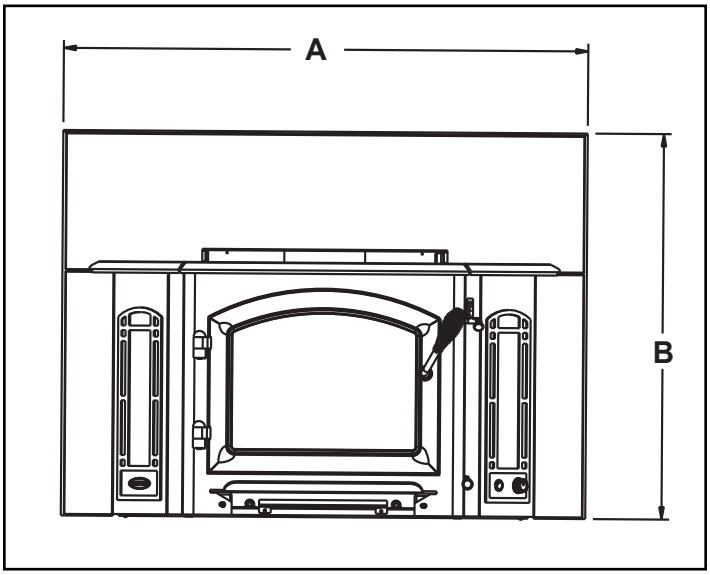


Figure 7.2 Front View

Surround Sizes	A	B
Standard	43 in. (1092mm)	31 in. (787mm)
Large	53 in. (1346mm)	34 in. (864mm)

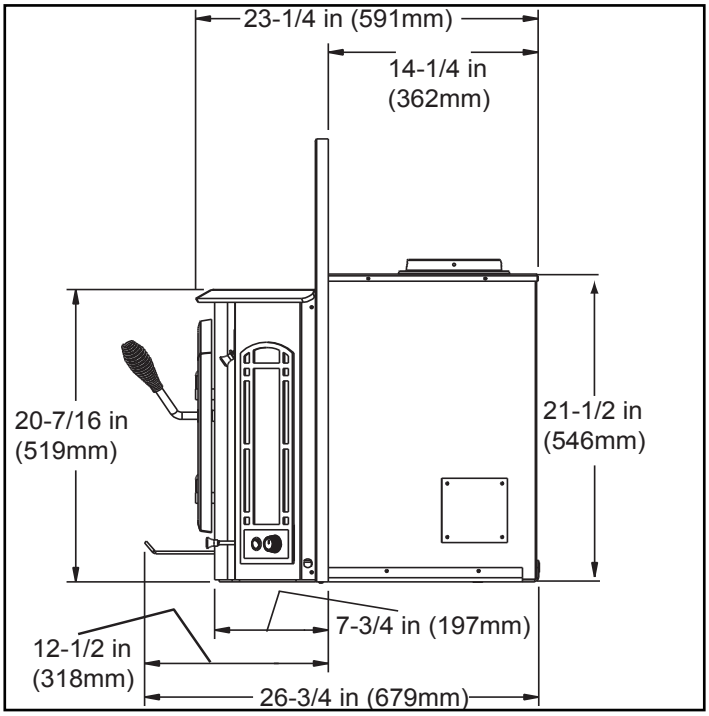


Figure 7.3 - Side View

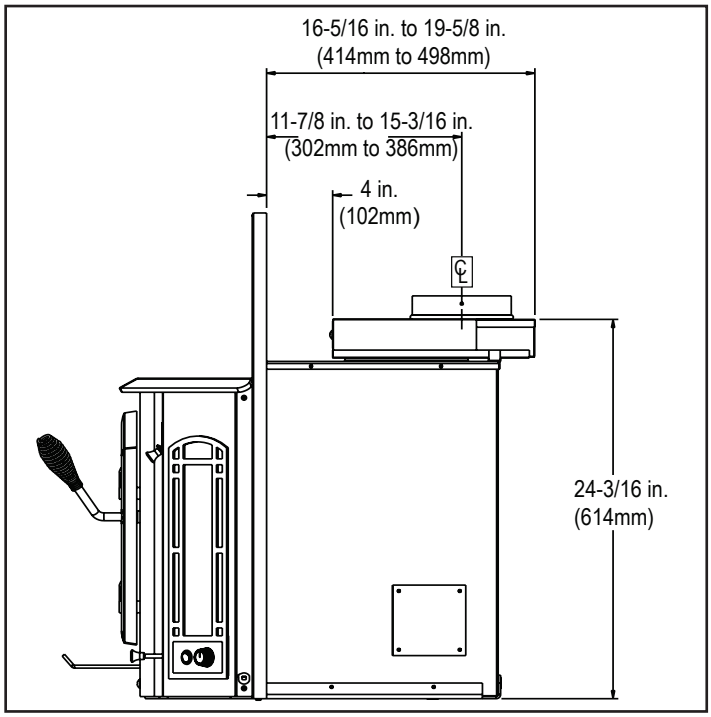
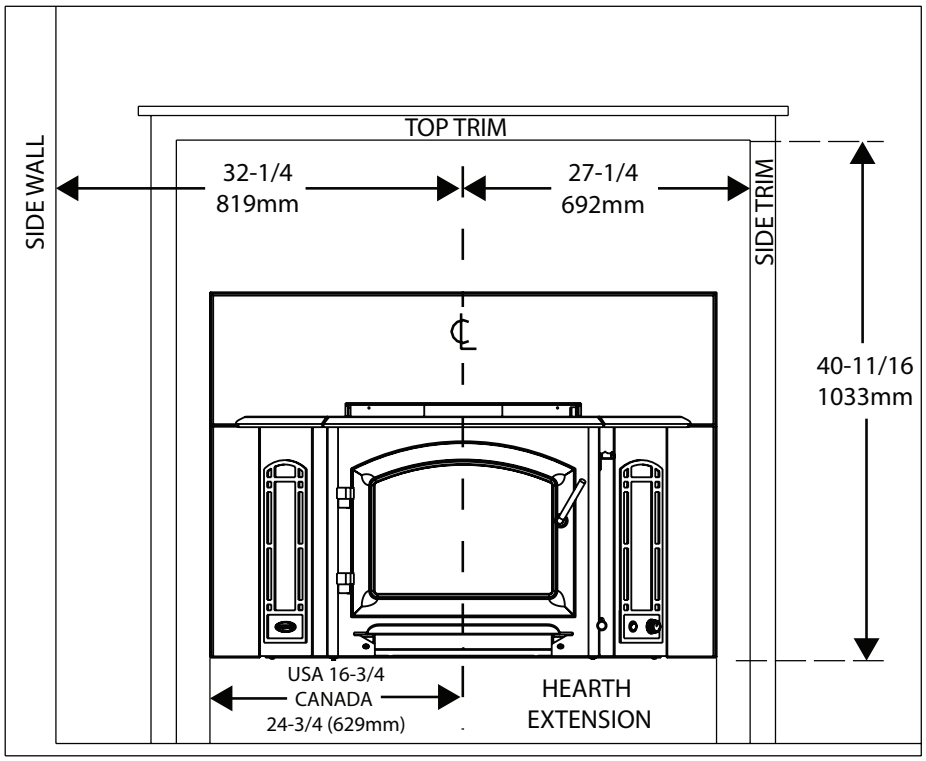
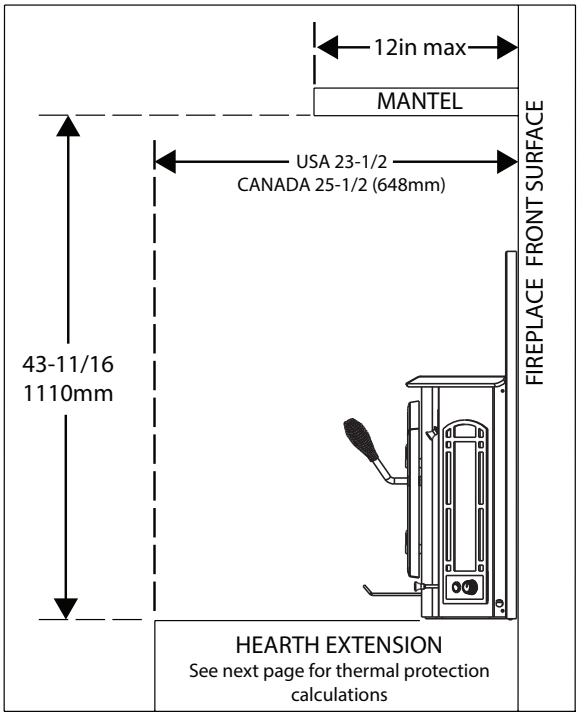


Figure 7.4 - Side View With Optional Offset Adapter

B. Clearances to Combustibles

United States and Canada (UL and ULC)





THERMAL PROTECTION	USA & CANADA
Floor height 0” to 6-1/2” (6mm to 165mm) below insert base	1-1/2 inch (38) of k=3.06
Floor height greater than 6-1/2” (165mm) below insert base	1 inch (25) of k = 0.49, R = 2.04

In Canada a full length 6 inch (152mm) S635 flue liner required as per ULC S628.
In USA a minimum 5 ft length (1.82m), 6 inch (152mm) diameter flue liner is required as per UL 1482.

⚠ WARNING

Fire Risk.

- Comply with all minimum clearances to combustibles as specified.
- Failure to comply may cause house fire.

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction

Zero Clearance Floor Thermal Protection

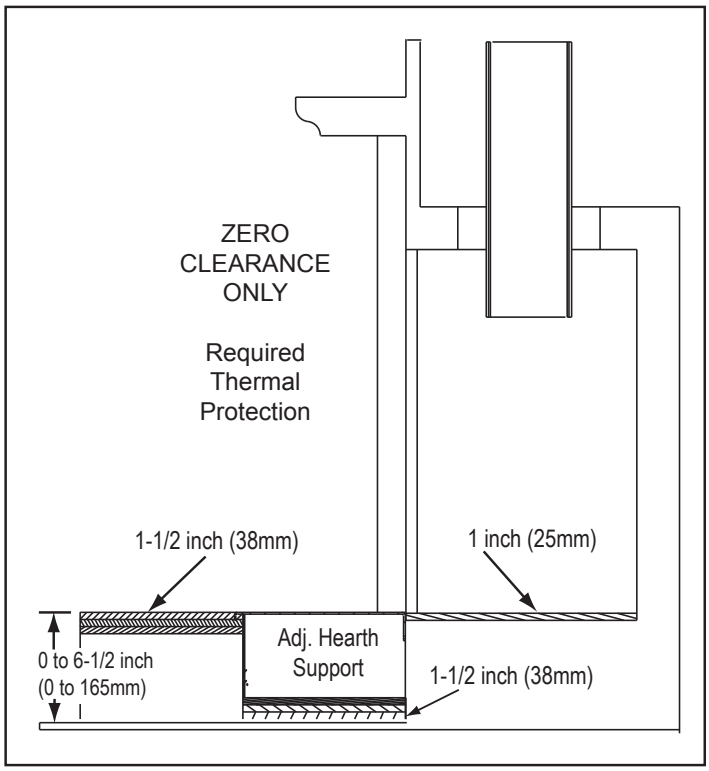


Figure 9.1

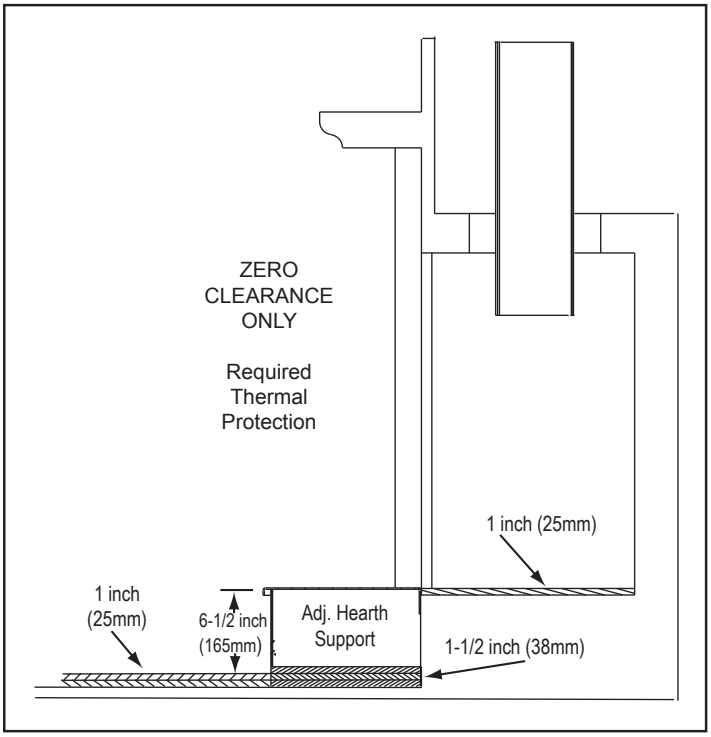


Figure 9.2

C. Calculating Alternate Floor Protection

Material

Thermal Conductivity: k value

The k value indicates the amount of heat (in BTU's) that will flow in 1 hour through 1 square foot of a uniform material 1 inch thick for each degree (F) of temperature difference from one side of the material to the other.

The LOWER the k factor means less heat is being conducted through the non-combustible material to the combustible material beneath it.

The k value of a material must be equal or smaller then the required k value to be acceptable.

$$\frac{\text{(BTU) (inch)}}{\text{(foot}^2\text{ (hour) (}^\circ\text{F)}}$$

Thermal Resistance: R value

The R value is a measure of a material's resisteance to heat transfer.

R value is convenient when more than one material is used since you can add the R values together, whereas you can not do this for k value.

The HIGHER the R factor means less heat is being conducted through the non-combustible material to the combustible material beneath it.

The R value of a material must be equal or larger then the required R value to be acceptable.

Converting k to R:

Divide 1 by k and multiply the results times the thickness in inches of the material.

R = 1/k x inches of thickness

Converting R to k:

Divide the inches of thickness by R.

k = inches of thickness/R

Calculatons:

Example: Floor protection requires k value of 0.84 and 3/4 inch thick.

Alternative material has a k value of 0.6 and is 3/4 inch thick.

Divide 0.6 by .75 = k value of 0.80. This k value is smaller than 0.84 and therefore is acceptable.

D. Locating Your Stove & Chimney

Location of the appliance and chimney will affect performance. As shown in **Figure 10.1** the chimney should:

- Install through the warm space enclosed by the building envelope. This helps to produce more draft, especially during lighting and die down of the fire.
- Penetrate the highest part of the roof. This minimizes the affects of wind turbulence and down drafts.
- Consider the appliance location in order to avoid floor and ceiling attic joists and rafters.
- Locate termination cap away from trees, adjacent structures, uneven roof lines and other obstructions.

Your local dealer is the expert in your geographic area and can usually make suggestions or discover solutions that will easily correct your flue problem.

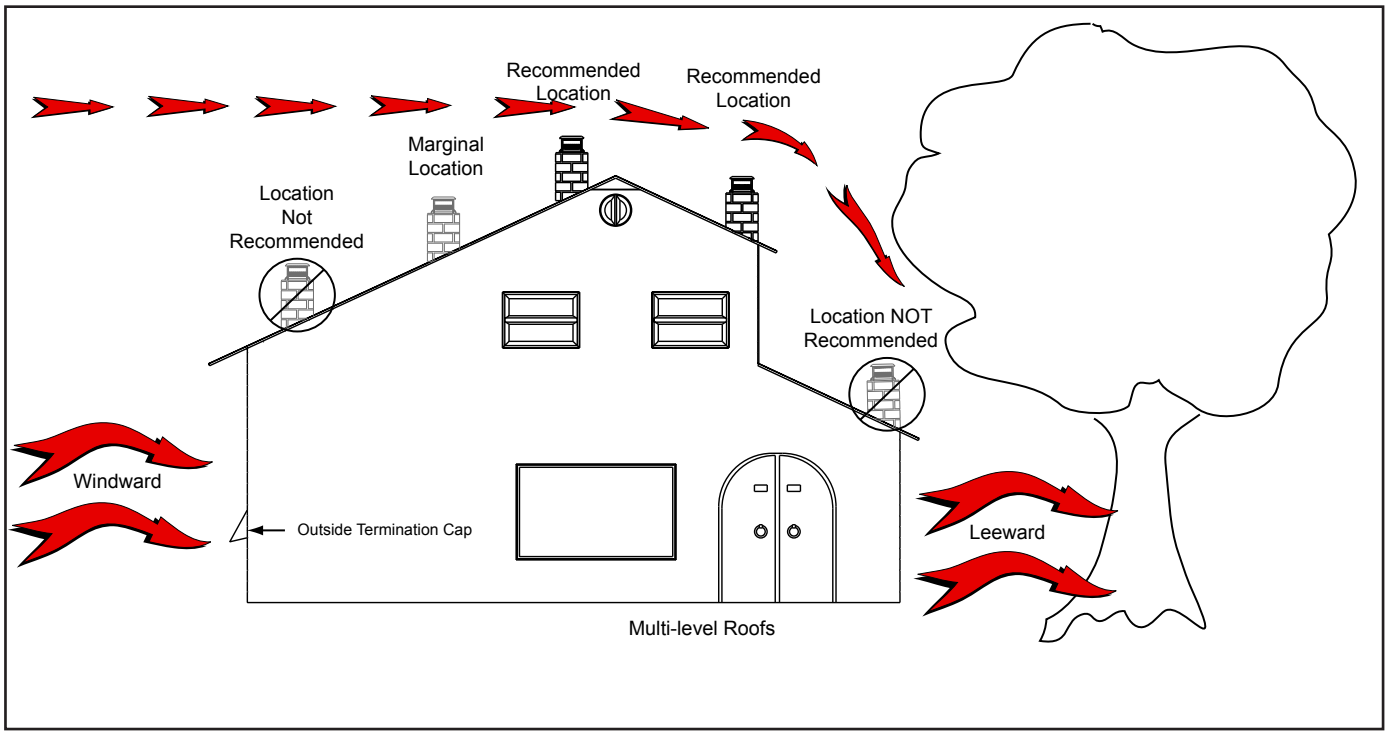


Figure 10.1

E. Chimney Termination Requirements

Follow manufacturer's instructions for clearance, securing flashing and terminating the chimney.

- Must have an approved and Listed cap
- Must not be located where it will become plugged by snow or other material
- Must terminate at least 3 feet (91cm) above the roof **and** at least 2 feet (61cm) above any portion of the roof within 10 feet (305cm).
- Must be located away from trees or other structures

NOTICE:

- *Chimney performance may vary.*
- *Trees, buildings, roof lines and wind conditions affect performance.*
- *Chimney height may need adjustment if smoking or overdraft occurs.*

NOTICE: *Locating the appliance in a basement or in a location of considerable air movement can cause intermittent smoke spillage from appliance. Do not locate appliance near*

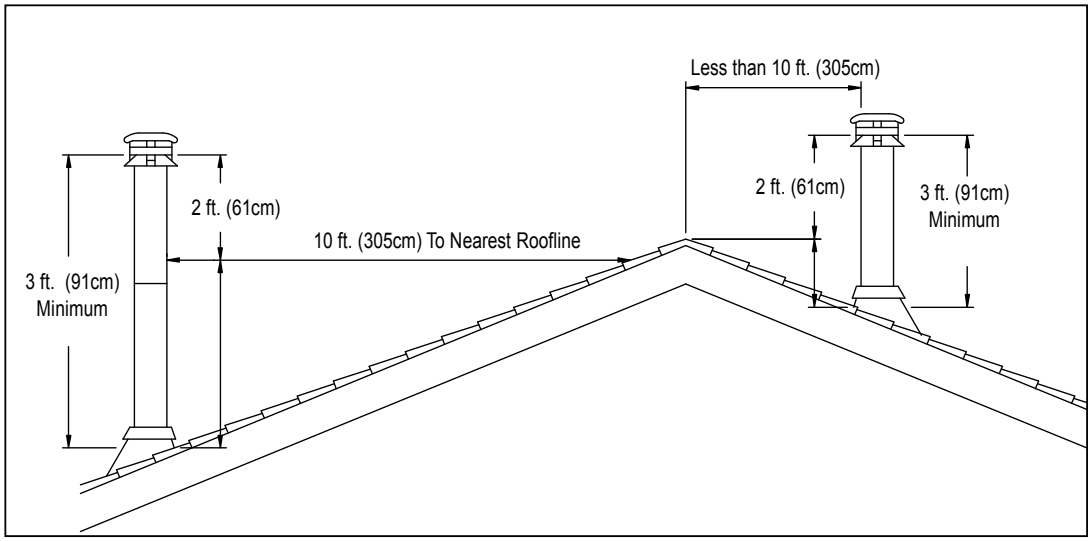
- *Frequently open doors*
- *Central heat outlets or returns*

F. 2-10-3 Rule

These are safety requirements and are not meant to assure proper flue draft.

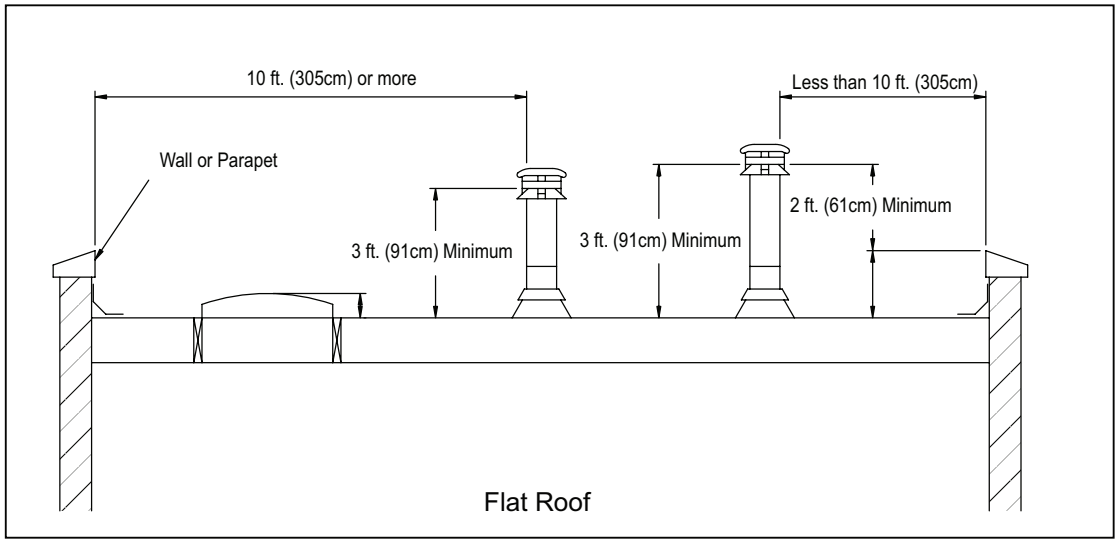
This appliance is made with a 6 inch (152mm) diameter chimney connector as the flue collar on the unit.

- Changing the diameter of the chimney can affect draft and cause poor performance.
- It is not recommended to use offsets and elbows at altitudes above 4000 feet above sea level and or when there are other factors that affect flue draft.



Pitched Roof

Figure 11.1



Flat Roof

Figure 11.2

4 Chimney Systems

A. Venting Systems

Chimney Connector:

It is also known as flue pipe or stove pipe. It must be 6 inches (152mm) minimum diameter stainless steel connector pipe.

Chimney:

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements as specified below.

WARNING! Risk of Fire!

Follow venting manufacturer's clearances and instructions when installing venting system.

B. Inspections

Existing chimneys should be inspected and cleaned by a qualified professional prior to installation. The chimney must not have cracks, loose mortar or other signs of deterioration and blockage. Hearth & Home recommends a NFI or CSIA certified professional or a technician, under the direction of a certified professional, conduct a Level II inspection per NFPA 211.

⚠ WARNING

Fire Risk

Inspection of Chimney:

- Chimney must be in good condition.
- Meets minimum standard of NFPA 211
- Factory-built chimney must be 6 inch (152mm) UL103 HT.

C. Larger Chimneys

It is recommended that chimneys with larger diameters than 6 inches (152mm) be relined. An oversized flue can affect draft and impair performance and will allow increased build-up of creosote.

NOTICE: Check with your local building authorities and/or consult the National Fire Protection Association (NFPA 211).

D. Masonry Chimney

- Must meet minimum standards of NFPA 211.
- Must have at least 5/8 inch (16mm) fireclay lining joined with refractory cement. (Installations into a clay flue without a stainless steel liner may reduce draw which affects performance, will cause the glass to darken and produce excessive creosote).
- The masonry wall of the chimney, if brick or modular block, must be a minimum of 4 inches (102mm) nominal thickness.
- A chimney of rubble stone must be at least 12 inches (305mm) thick.
- Cross-sectional area shall conform to NFPA 211-2006 Section 12.4.5.1.
- Should be lined with a 6 inch (152mm) stainless steel flue liner to improve performance and reduce creosote build-up.
- An equivalent liner must be a listed chimney liner system or other approved material.
- No dilution air is allowed to enter the chimney.
  1. Secure the fireplace damper in the open position. If this cannot be accomplished, it will be necessary to remove the damper
  2. Seal damper area of chimney around chimney connector with a high temperature sealant or seal insert against the face of the fireplace.
  3. Both methods must be removable and replaceable for cleaning and re-installation.
- When possible, install an airtight clean-out door to the rear of the smoke shelf.

Masonry Chimney (Cont'd)

This insert conforms with the UL 1482 and ULC S628 (Canada) in all respects, and is approved to UL & ULC safety standards for installation and use within a fireplace with a masonry chimney in accordance with NFPA 211 and CAN/CSA-B365-01.

NOTE: In Canada, this fireplace insert must be installed with a continuous chimney liner of a 6 inch (152mm) diameter extending from the fireplace insert to the top of the chimney. The chimney liner must conform to the Class 3 requirements of CAN/ULC-S635, Standard for Lining Systems for Existing Masonry or Factory-Built Chimneys and Vents, or CAN/ULC-S640, Standard for Lining Systems for New Masonry Chimneys.

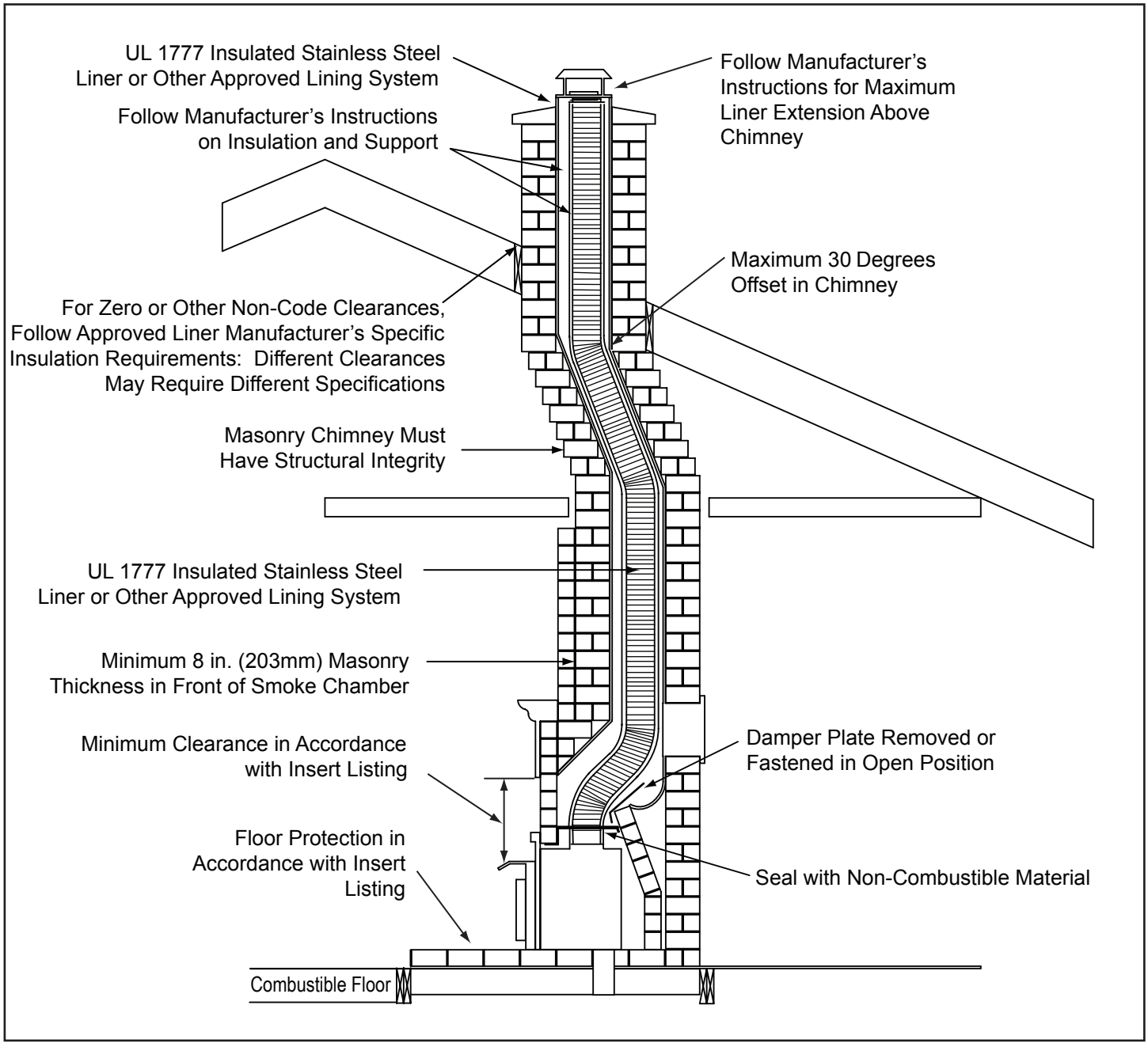

UL 1777 Insulated Stainless Steel Liner or Other Approved Lining System
Follow Manufacturer's Instructions on Insulation and Support
Follow Manufacturer's Instructions for Maximum Liner Extension Above Chimney
Maximum 30 Degrees Offset in Chimney
For Zero or Other Non-Code Clearances, Follow Approved Liner Manufacturer's Specific Insulation Requirements: Different Clearances May Require Different Specifications
Masonry Chimney Must Have Structural Integrity
UL 1777 Insulated Stainless Steel Liner or Other Approved Lining System
Minimum 8 in. (203mm) Masonry Thickness in Front of Smoke Chamber
Minimum Clearance in Accordance with Insert Listing
Damper Plate Removed or Fastened in Open Position
Floor Protection in Accordance with Insert Listing
Seal with Non-Combustible Material
Combustible Floor

Figure 13.1

Generic Insert Model Shown in Illustration

E. Metal Heat Circulating Masonry

This insert conforms with the safety standard UL-1482 and ULC S628 (Canada) in all respects and is approved to UL & ULC safety standards for installation and use within a fireplace with masonry chimney, in accordance with NFPA 211, with a direct flue collar connection.

F. Prefabricated Metal Chimney

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements:

- Must be minimum 6 inch (152mm) inside diameter of high temperature chimney listed to UL 103 HT (2100^{o}F) or ULC S628.
- Must use components required by the manufacturer for installation.
- Must maintain clearances required by the manufacturer for installation.
- Refer to manufacturers instructions for installation
- This insert is listed to UL 1482 Standard and is approved for installation into listed factory-built zero clearance fireplaces listed to UL 127 conforming to the following specifications and instructions:
- The original factory-built clearance fireplace chimney cap must be re-installed after installing the approved chimney liner meeting type UL 103 HT requirements (2100°F) per UL 1777.
- If the chimney is not listed as meeting HT requirements, or if the factory built fireplace was tested prior to 1998, a full height listed chimney liner must be installed from the appliance flue collar to the chimney top.
- The liner must be securely attached to the insert flue collar and the chimney top.
- The air flow of the factory-built zero-clearance fireplace system must not be altered. The flue liner top support attachment must not reduce the air flow for the existing air-cooled chimney system.
- No dilution air is allowed to enter the chimney.

1. Secure the fireplace damper in the open position. If this cannot be accomplished, it will be necessary to remove the damper
2. Seal damper area of chimney around chimney connector with a high temperature sealant or seal insert against the face of the fireplace.
3. Both methods must be removable and replaceable for cleaning and re-installation.

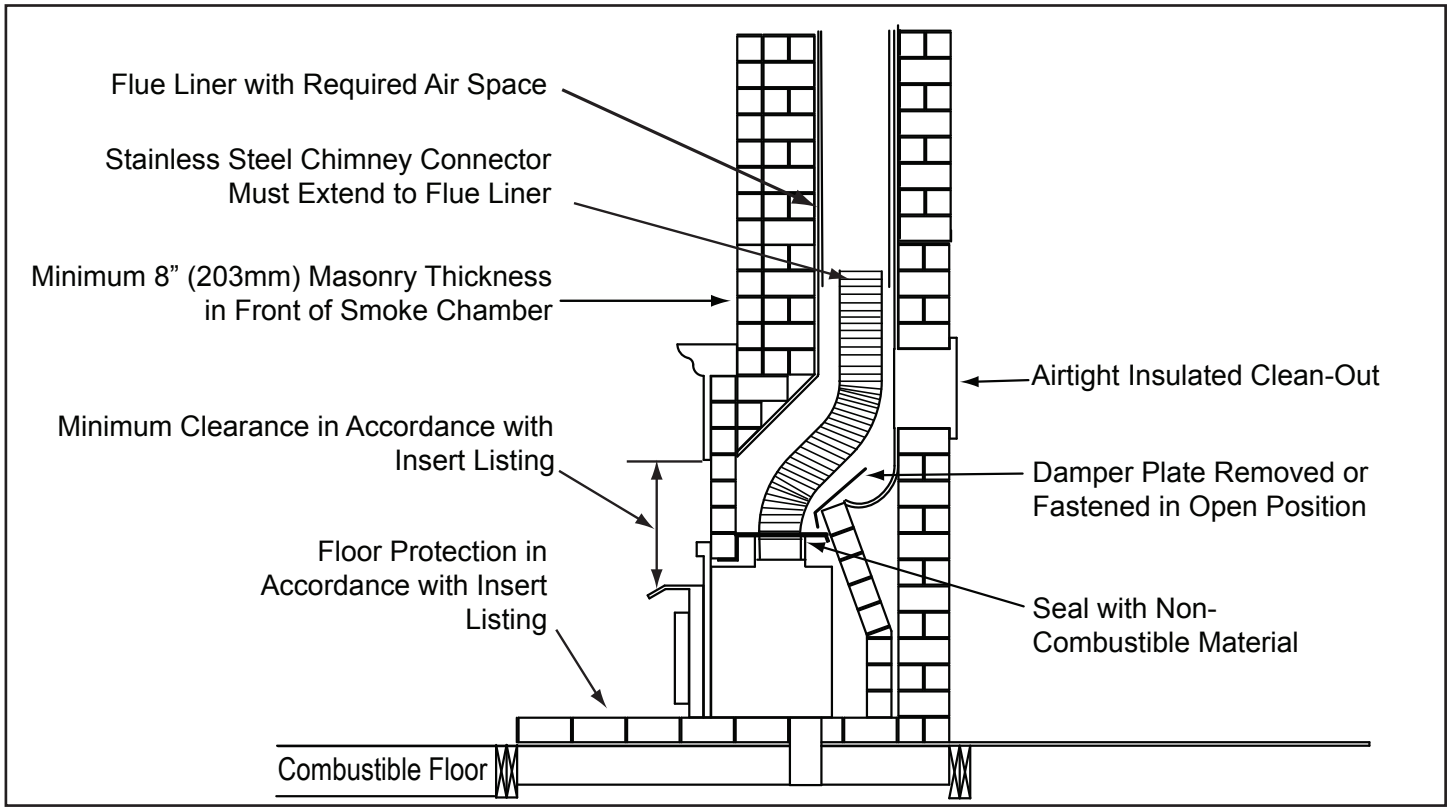

Flue Liner with Required Air Space
Stainless Steel Chimney Connector Must Extend to Flue Liner
Minimum 8” (203mm) Masonry Thickness in Front of Smoke Chamber
Minimum Clearance in Accordance with Insert Listing
Floor Protection in Accordance with Insert Listing
Combustible Floor
Airtight Insulated Clean-Out
Damper Plate Removed or Fastened in Open Position
Seal with Non-Combustible Material

Figure 14 .1

Generic Insert Model Shown in Illustration

Prefabricated Metal Chimney (Cont'd)

	Inches	*Millimeters*
Minimum Width of Cavity Opening - Front	29-1/16	738
Minimum Width of Cavity Opening - Rear	25-1/2	648
Minimum Height	20-3/4	528
Minimum Depth from Front to Rear	17-9/16	446

NOTE: Refer to chimney liner manufacturer for recommendations on supporting the liner. Installation into fireplaces without a permit will void the listing.

NOTICE: In Canada when using a factory-built chimney it must be safety listed, Type UL103 HT (2100oF) [1149oC] CLASS "A" or conforming to CAN/ULC-S629M, STANDARD FOR 650oC FACTORY-BUILT CHIMNEYS.

⚠ WARNING

Fire Risk.

When lining air-cooled factory-built chimneys:.

- Run chimney liner approved to UL 1777 Type HT requirements (2100 degrees F)
- Re-install original factory built chimney cap ONLY
- DO NOT block cooling air openings in chimney
- Blocking cooling air will overheat the chimney

G. Securing Chimney Components

All joints should be secured with 3 sheet metal screws or rivets per pipe manufacturers instructions. The sections must be attached to the insert and to each other with the crimped (male) end pointing toward the insert. **Figure 15.1**.

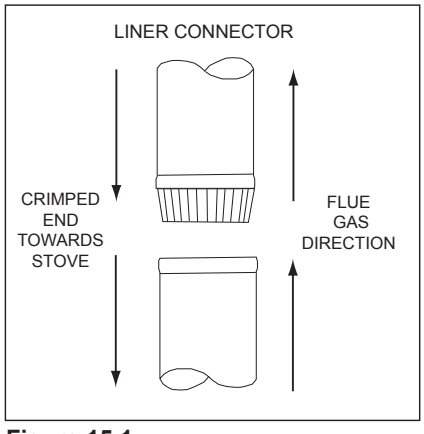


Figure 15.1

WARNING! Risk of Fire!

Follow venting manufacturer's clearances and instructions when installing venting system.

H. Altering the Fireplace

The following modifications of factory-built fireplaces are permissible:

The following parts may be removed:

Damper	Smoke Shelf or Baffle
Ember Catches	Fire Grate
Viewing Screen/Curtain	Doors

- The fireplace must not be altered. Cutting any sheet metal parts of the fireplace in which the fireplace insert is to be installed is prohibited per ANSI Z21.88 except that the damper may be removed to accommodate a direct-connect starter pipe or chimney liner,
- External trim pieces which do not affect the operation of the fireplace may be removed providing they can be stored on or within the fireplace for reassembly if the insert is removed.
- The permanent metal warning label provided in the component pack must be attached to the back of the fireplace, with screws or nails, stating that the fireplace may have been altered to accommodate the insert, and must be returned to original condition for use as a conventional fireplace. **Figure 15.2**.
- If the hearth extension is lower than the fireplace opening, the portion of the insert extending onto the hearth must be supported.
- Manufacturer designed adjustable support kit can be ordered from your dealer.
- Final approval of this installation type is contingent upon the authority having jurisdiction.

WARNING

THIS FIREPLACE MAY HAVE BEEN ALTERED TO ACCOMMODATE AN INSERT. IT MUST BE RETURNED TO ITS ORIGINAL CONDITION BEFORE USE AS A SOLID FUEL BURNING FIREPLACE.

250-2061

Figure 15.3

I. Zero-Clearance Fireplace

A permit may be required for installations, final approval is contingent of the authority having local jurisdiction. Consult insurance carrier, local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Inspect the existing fireplace and chimney for any damage or flaws such as burnouts, metal or refectory warping.

Inspection to a minimum of NFPA 211 Level II is recommended. All repairs must be made prior to installing an insert. The fireplace must be structurally sound and be able to support the weight of the solid-fuel insert

The factory-built chimney must be listed per UL 127 or ULC 610-M87 for all installations. Install thermal protection per this appliance listing requirements.

A full height 6 inch diameter stainless steel full height listed chimney liner must be installed meeting type HT (2100°F) requirements per UL 1777 (USA) or ULC S635 with "0" clearance to masonry (Canada). The full liner must be attached to the insert flue collar and to the top of the existing chimney.

The flue liner top support attachment must not reduce the air flow for the existing air-cooled chimney system. Re-install original factory-built chimney cap **only**. (See Section F., Prefabricated Metal Chimney)

To prevent room air passage to the chimney cavity of the fireplace, seal either the damper area around the chimney liner or the insert surround. Circulating air chamber (i.e. in a steel fireplace liner or metal hearth circulator) may not be blocked. The air flow within and around the fireplace shall not be altered, blocked by the installation of the insert. (i.e. no louvers or cooling air inlet or outlet ports may be blocked by the insert or the insert surround.

See "H. Altering the Fireplace" for modifications allowed for factory-built fireplaces.

WARNING! Risk of Asphyxiation!

- *DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE OR TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.*

This may allow flue gases to enter the house.

J. Ovalizing Round Stainless Steel Liners

Ovalizing round stainless steel liners to accommodate the liner passing through the damper region of a fireplace is an allowable and acceptable practice.

Ensure that the ovalization is minimized to the extent required to fit through the damper.

K. Chimney Height / Rise and Run

To be sure that your Quadra-Fire insert burns properly, the chimney draft (static pressure) should be approximately -0.10 inches water column (W.C.) during a high burn and -0.04 inches W.C. during a low burn, measured 6 inches (152mm) above the top of the insert after one hour of operation at each burn setting.

NOTE: These are guidelines only, and may vary somewhat for individual installations.

- This product was designed for and tested on a 6 inch (152mm) chimney, 14 to 16 feet (4.27-4.87m) high, (includes appliance height) measured from the base of the appliance.
- The further your stack height or diameter varies from this configuration, the possibility of performance problems exists.
- Chimney height may need to be increased by 2 - 3% per each 1000 feet (304.8m) above sea level.
- It is not recommended to use offsets or elbows at altitudes above 4000 feet (1219.2m) above sea level or when there are other factors that affect flue draft.

⚠ WARNING

Fire Risk.

Do NOT pack insulation or other combustibles between spacers.

- **ALWAYS maintain specified clearances around venting and spacers.**
- **Install spacers as specified.**

Failure to keep insulation or other material away from vent pipe may cause fire.

⚠ WARNING

Fire Risk.

This appliance relies upon natural draft to operate properly.

- **Chimney heights exceeding 25 feet (7.62m) from base of appliance may create an over-draft situation.**
- **Overdraft condition may create over-firing.**

Over-firing may ignite creosote and/or damage appliance and chimney

5 Appliance Set-Up

A. Outside Air Kit Installation

A source of air (oxygen) is necessary in order for combustion to take place. Whatever combustion air is consumed by the fire must be replaced. Air is replaced via air leakage around windows and under doors. In homes that have tightly sealed doors and windows, an outside air source is needed. An optional Outside Air Kit is available.

Items Needed for Installation (not supplied)

- 4 inch flex aluminum pipe, or if using alternate material, then it shall be made from durable, non-combustible, heat resistant material up to 350°F. Cut the pipe to the required length for your installation.
- Phillips head screw driver
- 5/32 Allen Wrench
- Silicone sealant

Option One - Installation Instructions

The outside air cover comes packaged with the component pack. It is necessary to remove the blower housing and block off the room air with the outside air cover.

1. Remove the appliance cover plate on outer can and discard and reuse the 4 screws.
2. Install optional flex adapter to outer can with the same screws. Do not use plastic wire ties that come with the kit as they will melt. NOTE: You may need to install the flex pipe into the firebox first depending on installation. Attach flex to adapter with at least 2 screws.
3. Ensure existing access hole in fireplace is sufficient to feed the 4 inch flex.
4. After sliding can into fireplace, feed flex into cut opening to obtain outside combustion air.
5. Level outer can and install appliance. See **page 20.**
6. Remove 4 bolts from both sides of the blower housing and remove the housing.
7. Remove 2 Phillips head screws from housing and save.
8. Attach outside air cover to the back of the blower using the same 2 screws.
9. Ensure all wires are properly attached and then re-install the blower housing to the appliance.

Option Two - Installation Instructions

1. Remove the outside air cover plate on outer can and discard and reuse the 4 screws
2. Ensure existing access hole in fireplace will not be covered by the outer can. Existing outside air intake hole may be under at the rear or side of outer can. Outside air may also enter down existing chimney chase in some situations.
3. Repeat steps 5 through 9 above with one exception. After installing the appliance in the outer can, seal the fireplace opening and trim package with insulation to prevent air leakage into the room.

WARNING

Fire Risk.

Asphyxiation Risk.

Do not draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage
- Close proximity to exhaust vents or chimneys

Fumes or odor may result

WARNING

Asphyxiation Risk.

Outside air inlet must be located to prevent blockage from:

- Leaves, snow, ice or other debris

Block may cause combustion air starvation

Smoke spillage may set off alarms or irritate sensitive individuals.

WARNING

Asphyxiation Risk.

Length of outside air supply duct shall NOT exceed the length of the vertical height of the exhaust flue.

- Fire will not burn properly
- Smoke spillage occurs when door is opened due to air starvation.

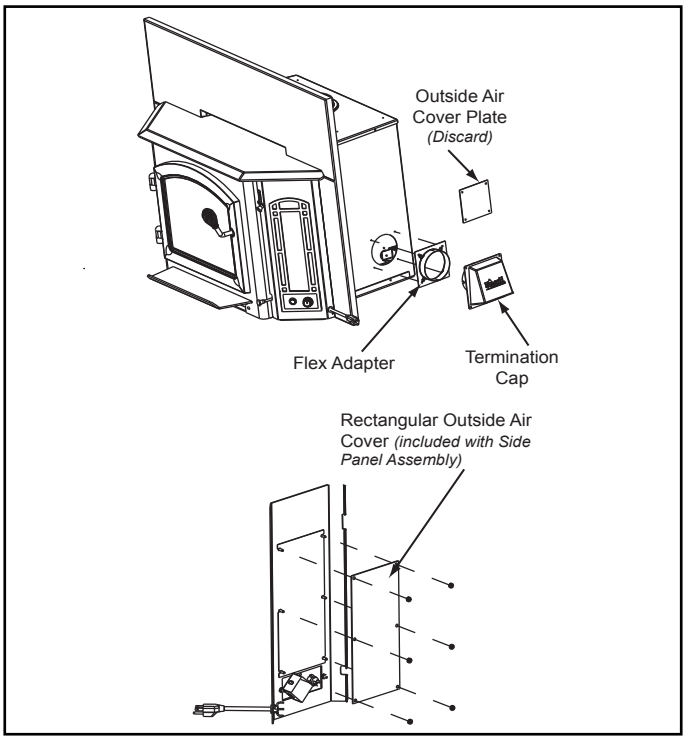

Outside Air Cover Plate (Discard)
Flex Adapter
Termination Cap
Rectangular Outside Air Cover (included with Side Panel Assembly)

Figure 17.1

B. Disassemble Firebox and Outer Can

For easier field installation the outer can is installed without the firebox so connecting to the flue has greater access. The firebox slides into the outer can once the flue collar is attached to the stove pipe/liner and optional outside air flex pipe is installed.

1. Remove the flue collar by cutting the wire ties. Set the flue collar and attachment bar aside.
2. Remove the 2 screws holding the timer assembly in place and remove the timer. **Figure 18.1**.
3. Remove the 2 Phillips head bolts underneath the ashlip which holds the firebox in place.
4. Slide the firebox out of the outer can.
5. Remove the 2 pallet lag bolts.

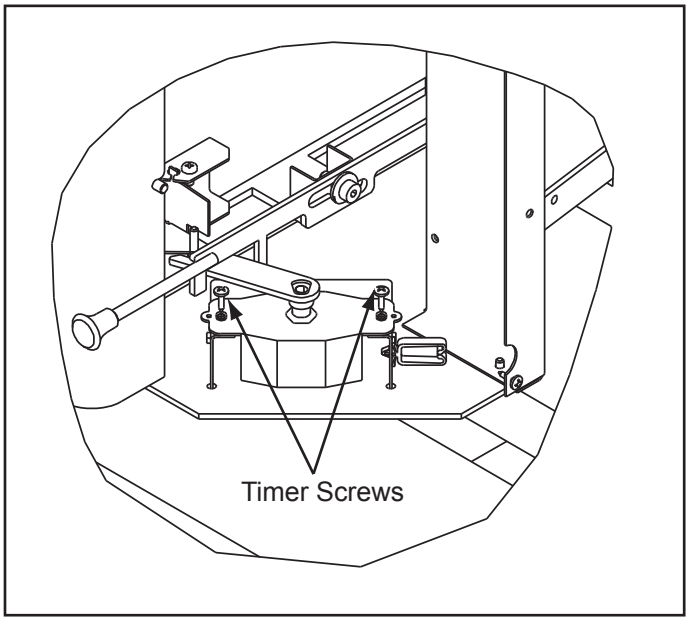


Figure 18.1

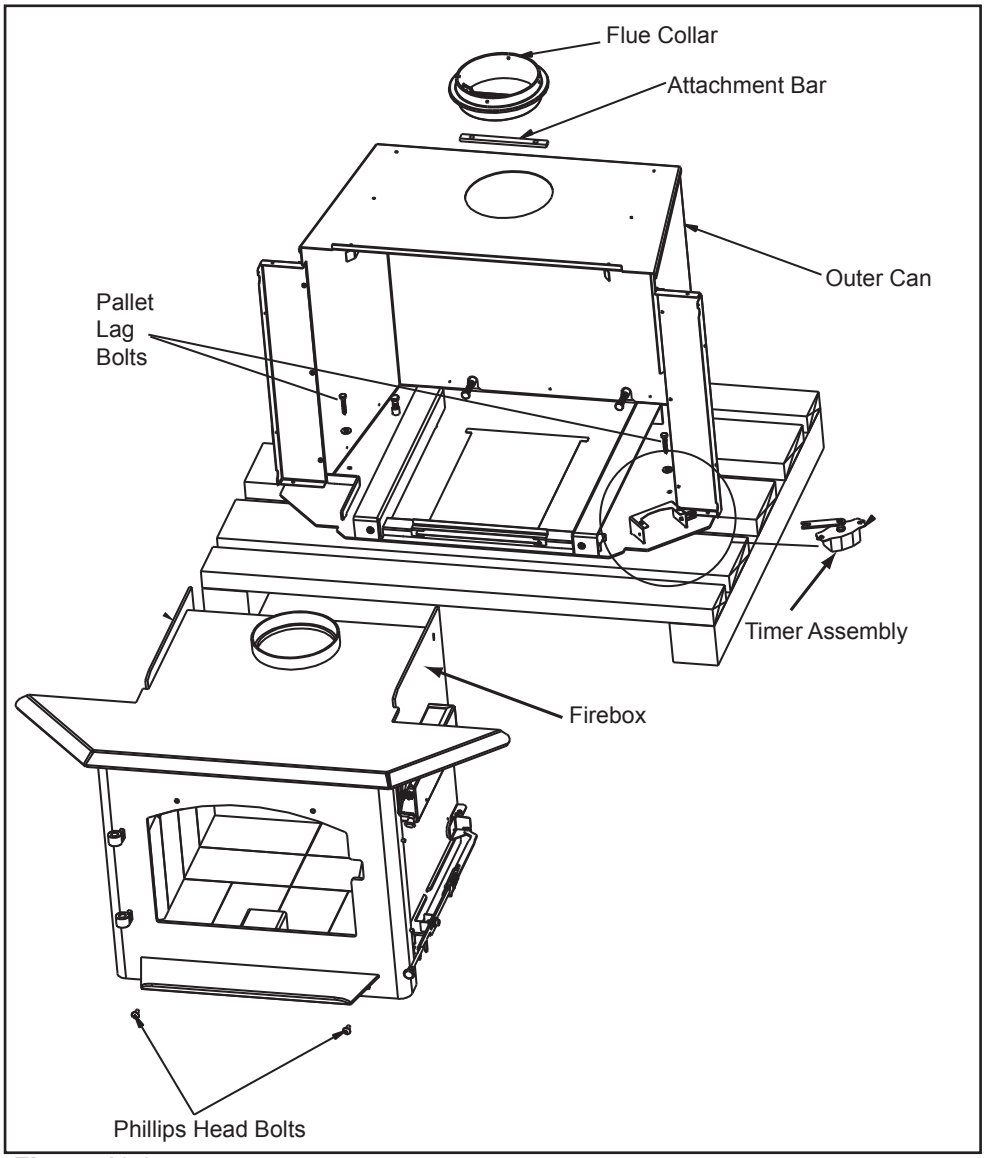


Figure 18.2

C. Securing Stove Pipe/Liner to Flue Collar

1. There are 4 pre-drilled holes in the flue collar 90 degrees apart. Attach the flue collar to the stove pipe/liner. If the seal is questionable use high temperature sealant such as stove mastic **Figure 19.1.**
2. Attach gasket to bottom side of flue collar with a thin coat of silicone.

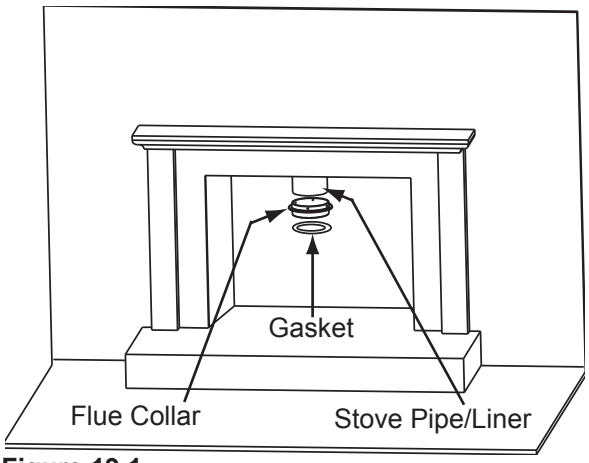


Figure 19.1

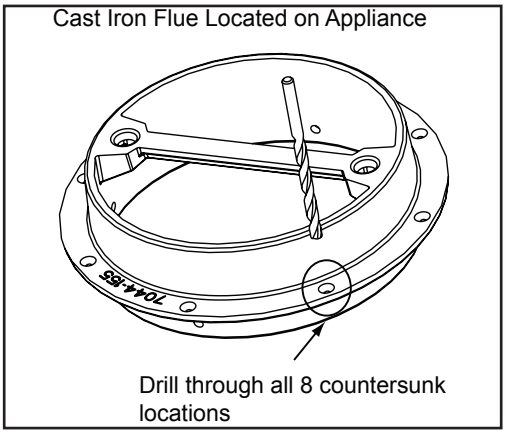


Figure 19.2

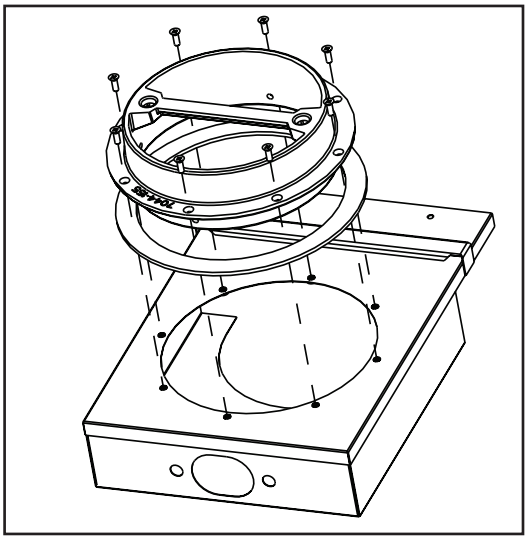


Figure 19.3

D. Optional Offset Adapter Installation

In some installations the flue collar and stove pipe/liner do not always align properly. This situation may be remedied by using the optional offset adapter. See Appliance Dimensions page for the amount of distance this accessory can telescope between the flue collar and stove pipe/liner.

1. Remove the cast iron flue collar from the appliance and flip it upside down. Using the larger #7 drill bit supplied, drill through all 8 countersunk locations. **Figure 19.2.**
2. Slide the gasket over the flue collar and attach it to the offset adapter using the 8-32 flathead screws provided. **Figure 19.3.**
3. Adjust the offset adapter to desired distance. Drill holes through the lower chamber as shown in **Figure 19.4** using the small drill bit #26 provided.
4. Cut the gasket to the proper length and slide in between the upper and lower chambers centered on the screw holes. Attach the upper and lower chambers with screws provided. **Figure 19.5**.
5. Repeat the process on the bottom side.

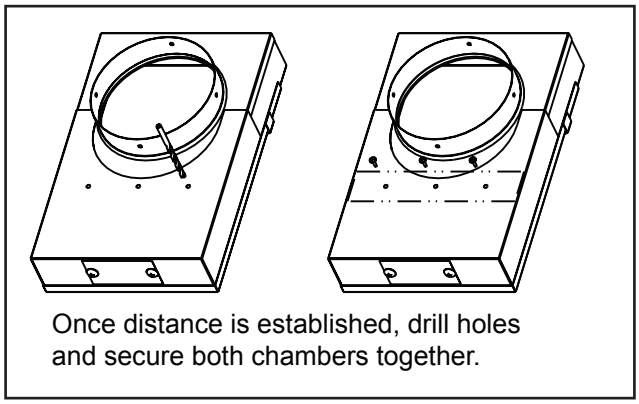


Figure 19.4

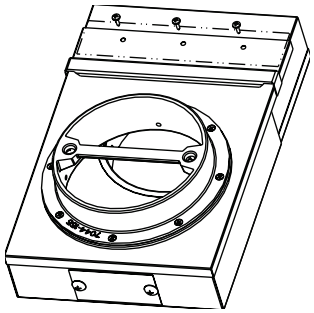


Figure 19.5

E. Installing Outer Can & Leveling Bolts

1. Align the back of surface of outer can side panels to the front wall surface for proper placement. **Figure 20.2.** Use the leveling bolts to level the outer can. **Figure 20.1**.
3. Thread the horizontal support bolts in until they hit the back wall of the fireplace to help secure in place. **Figure 20.3.**
4. It is recommended that you use the pallet mounting holes to lag the outer can into the fireplace floor for extra support, however it is not required.

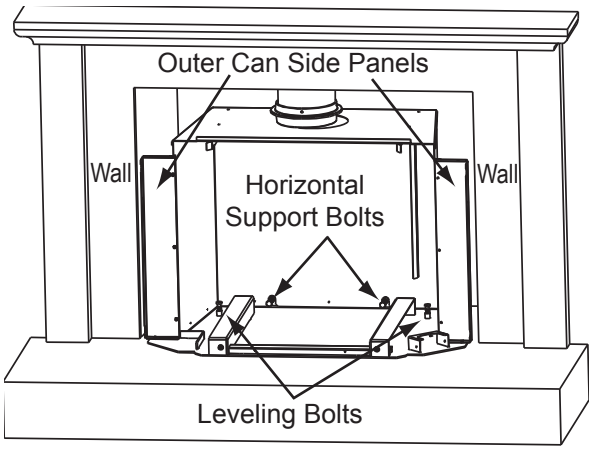


Figure 20.1

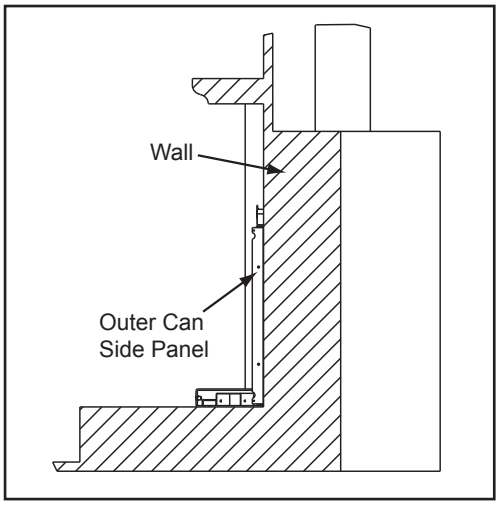


Figure 20.2

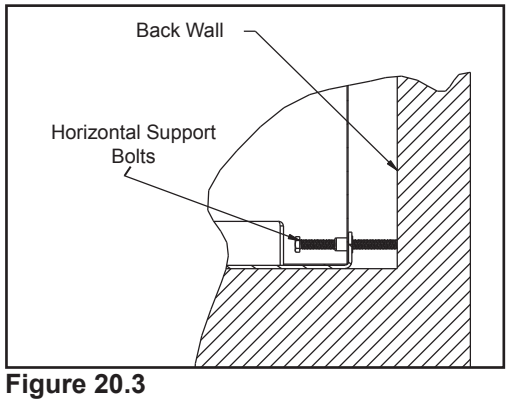


Figure 20.3

F. Surround & Trim Kit Installation

1. Lay surround face down on a protected surface to prevent scratching.
2. Using a Phillips head screw driver attach the side surrounds to the top surround using 2 #8 sheet metal screws provided with the kit. **Figure 20.4**.
3. Lay the trim face down and place the corner brackets into position.
4. Using a standard flat screw driver tighten the corner brackets. **Figure 20.5**.
5. Slide the trim over the surround set.
6. Install the surround set and trim set to the outer can. Secure the top and side surrounds as shown in **Figure 20.6.**

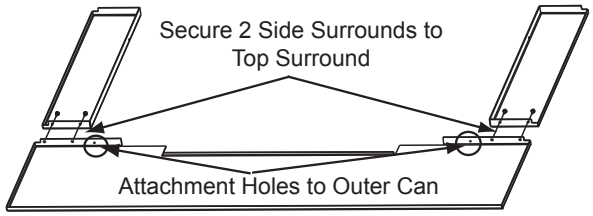


Figure 20.4

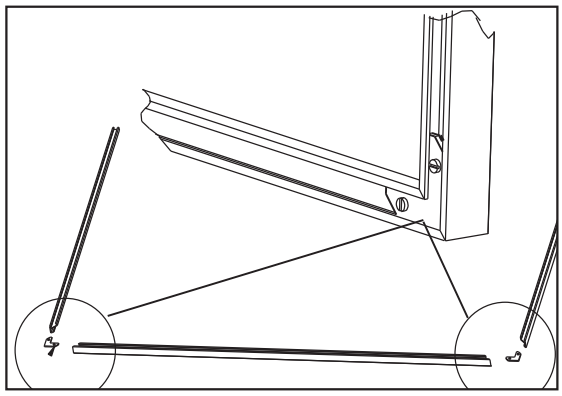


Figure 20.5

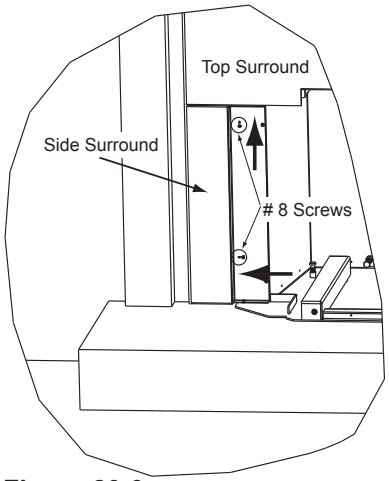


Figure 20.6

G. Installing Firebox into Outer Can

For easier installation, remove the baffle protection channel, tube channel assembly, baffle board and ceramic blanket from the appliance before installing into the outer can. See **Owner's Manual** for instructions.

1. Slide the appliance into the outer can. Secure with Phillips head bolts previously removed from under the ashlip. **Figure 21.1**.
2. Re-install the timer assembly. The timer arm must be between the first and second control arm tabs. **Figure 21.2.**
3. Attach the timer arm to the timer door.
4. Test the controls to ensure the timer operates correctly.

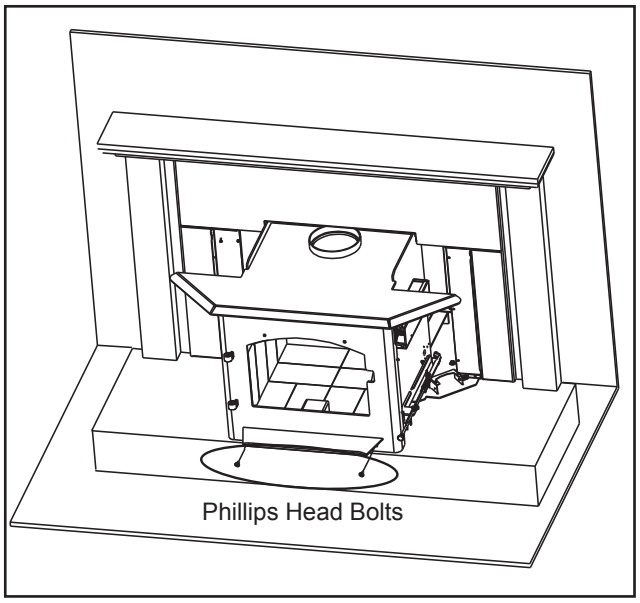


Figure 21.1

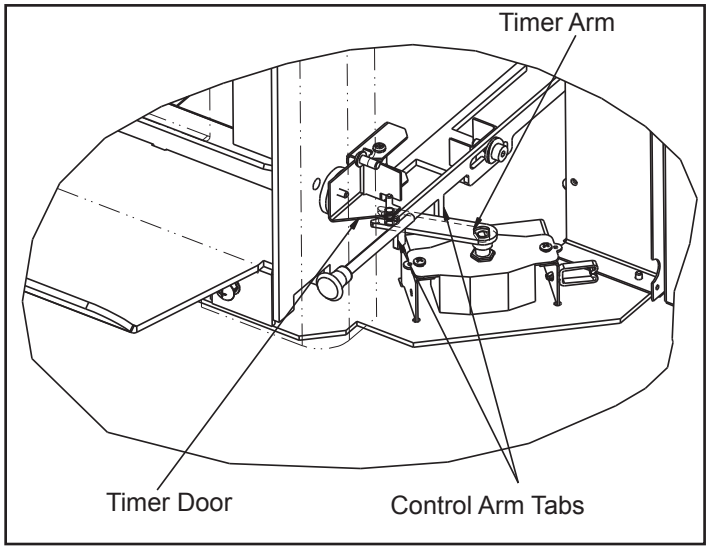


Figure 21.2

H. Securing Appliance to Stove Pipe/Liner

1. Once you have the appliance in place and secured, reach up through the flue opening and grab the attachment bar and pull down inside flue opening. **Figure 21.3**.
2. Insert the 5/16 bolts inside the cast flue and through the chimney mounting bar. Securely tighten the nuts. Fasteners are provided.
3. Re-install the tube channel assembly, baffle board, ceramic blanket and baffle protection channel.

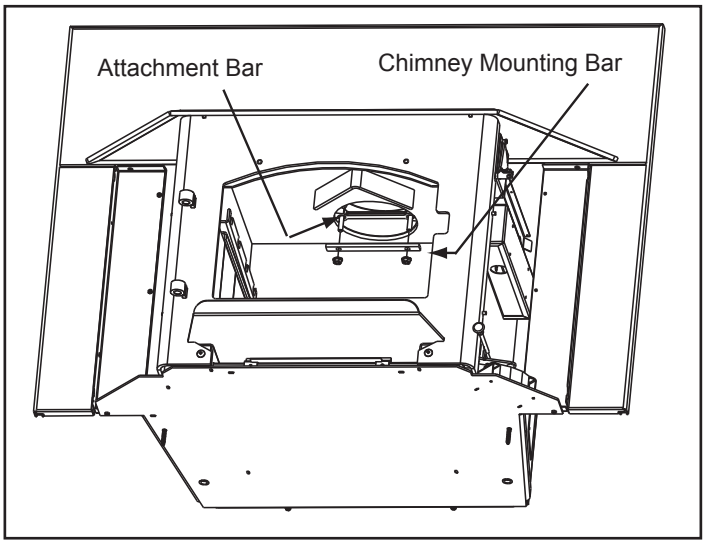


Figure 21.3

I. Leveling Legs

1. Remove the 2 screws already installed on each leg.
2. Move legs to the desired height**.**
3. Re-install the screws to secure in place.

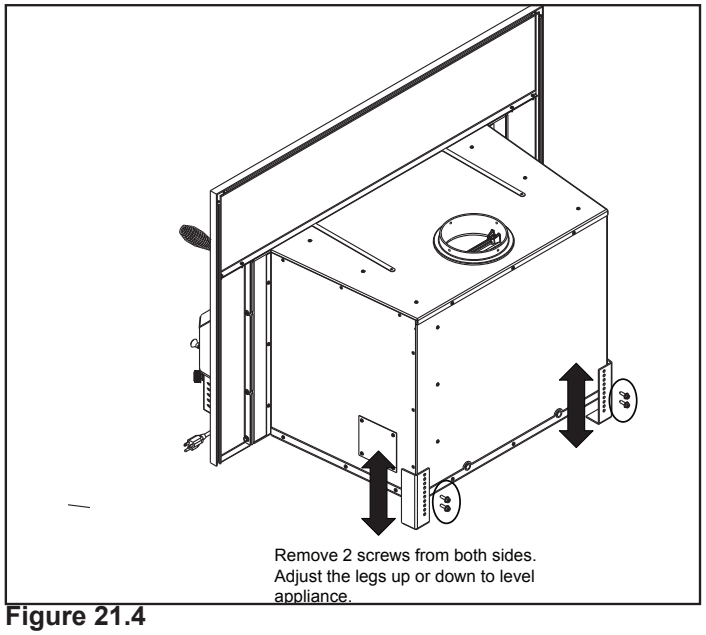


Figure 21.4

J. Snap Disc and Side Panel Installation

1. Place snap disc box in location shown in **Figure 22.1.**
2. Secure the wires through the wire clip to keep in place.
3. Route the blower wires underneath appliance through the wire channel to the other side of the appliance.
4. Tilt the side panel forward under the top and push the panel onto the pegs on the face.
5. Attach the side panel to the appliance with 2 screws, 1 at the top and 1 at the bottom on the right side of panel.
6. Repeat for other side once the blower has been installed.

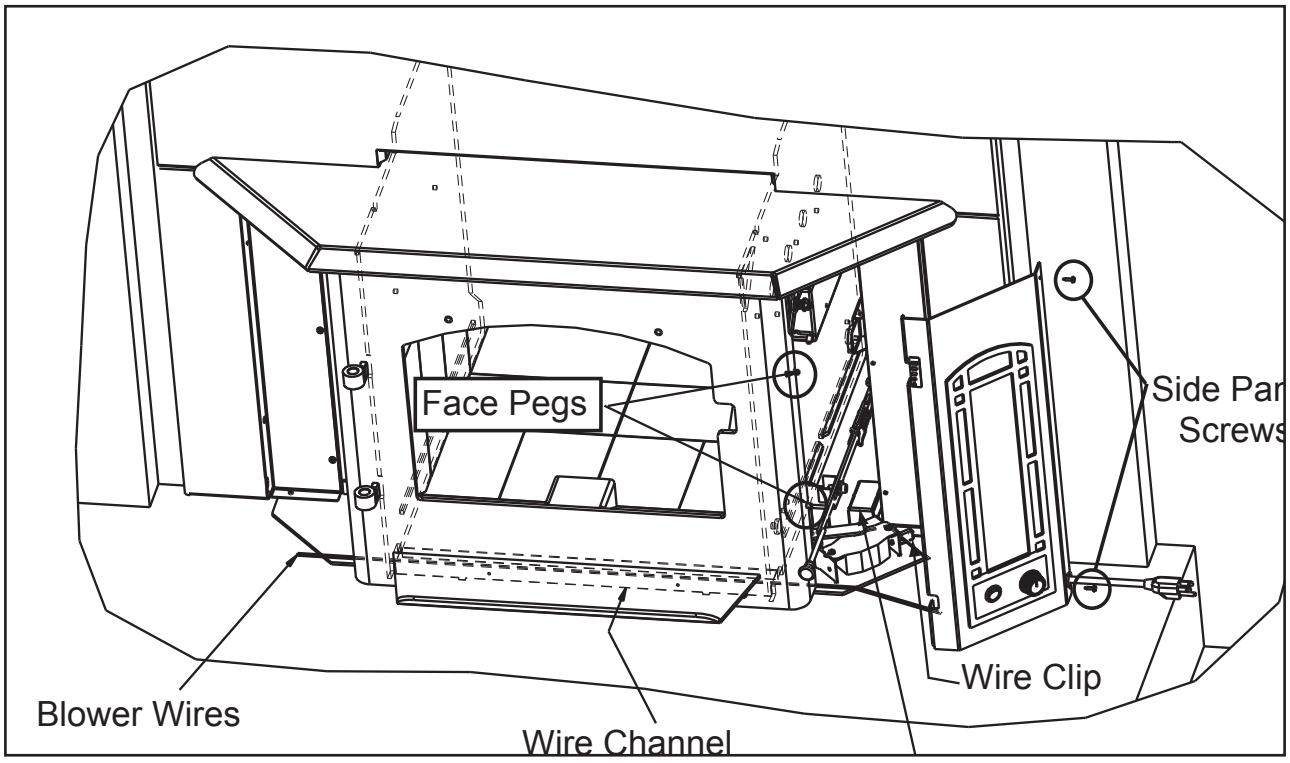


Figure 22.1

K. Blower Installation

1. Remove top and bottom screw from inner panel.
2. Slide blower mount with blower attached behind the face and secure with 5 screws provided, 3 on the right side and 2 on the left. **Figure 22.2**.
3. Connect the blower to the wire harness and secure through the wire clip.
4. Install left side panel.

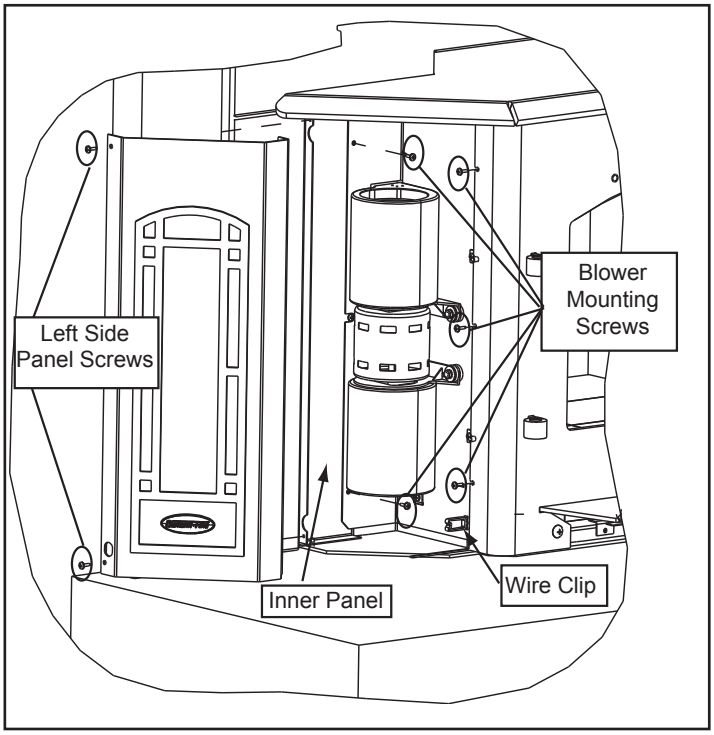


Figure 22.2

CAUTION

Shock Risk.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

L. Blower Cord Installation on Left Side

The blower cord is shipped to be installed on the right side of the appliance. You may relocate the cord so it is on the left side. You will need to remove the wires, flip them over and remove and reverse the male and female terminals and re-install the wires. The wire harness and components are located on the back side of the right side panel.

Relocating Blower Cord to Left Side

1. Remove the green ground terminal from the stud and unhook the neutral (white) and line power wires from the rest of the harness. **Figure 23.1**.
2. Re-install the nut on the stud after removal of the ground terminal.
3. Remove the strain relief from the side panel by gently pressing in the tabs using needle nose pliers on the wire harness side portion the strain relief.
4. Identify the wire with the male spade terminal (this was originally connected to the white (neutral) lead on the power cord) and carefully clip the three small zip ties that connect it to the rest of the harness. **Figure 23.2**
5. Once this wire is removed from the harness reverse the wire so that the female spade terminal is pointing towards the rest of the harness.
6. Re-attach this wire using the small zip ties supplied in roughly the same locations that you removed earlier. Leave the male spade terminal 5 inches (127mm) longer than the female spade terminal that is already attached to the harness. **Figure 23.3.**
7. Attach the female spade terminal to the black wire that comes out of the speed control. **Figure 23.4.**
8. Route the long lead wires from the right side of the unit in the wire channel that is under the unit.
9. Install the blower. See **page 21** for details.
10. On the left side panel attach the power cord strain relief into the hole that is located on the lower left. Attach the ground terminal to the stud that is located nearest the power cord. **Figure 23.5.**
11. Attach the white lead (neutral) directly to one of the leads coming off the blower. Attach the other blower lead to the female spade connector to the harness that is routed under the unit. Attach the male spade connector on the harness to the black power wire (line). Route the wires into the wire clip that is located on the blower mount plate. **Figure 23.5.**
12. Attach the left and right side panels.

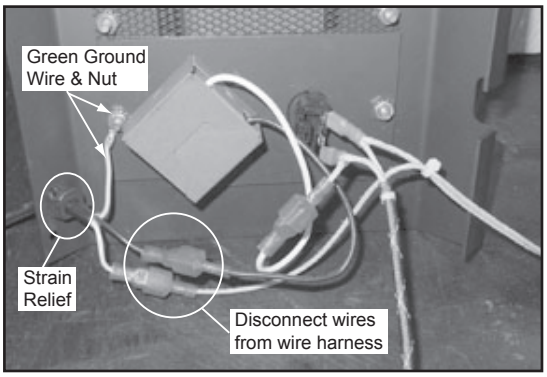


Figure 23.1

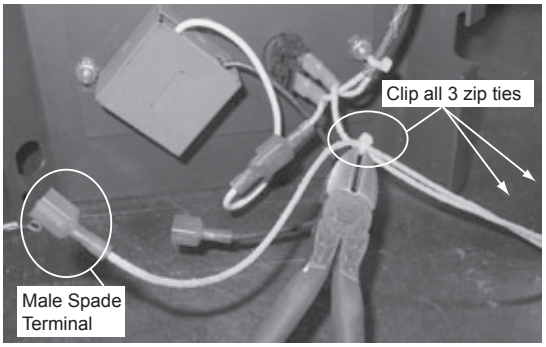


Figure 23.2

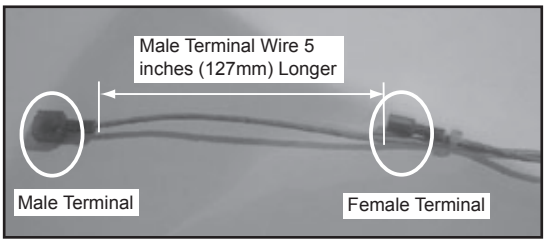


Figure 23.3

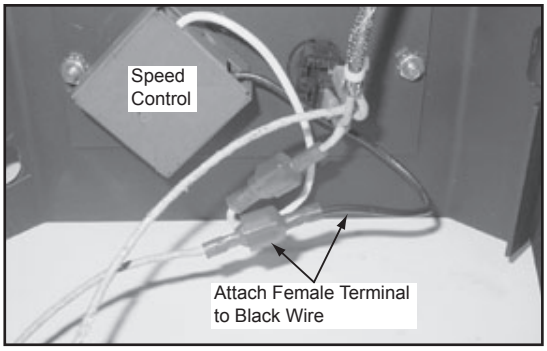


Figure 23.4

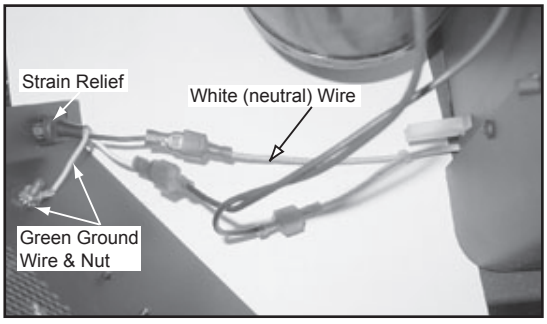


Figure 23.5

M. Zero Clearance Adjustable Trim Support, 2” to 10”

Part No. 841-0990, size 9” x 45” and
Part No. ADJSPT-12, size 12” x 50”

Included in Kit: (1) Trim Top, (1) Trim Front, (2) Trim Sides, Double-Sided Tape (already installed)

Tools Needed: Phillips Head Screwdriver, Sheet Metal Shears, Measuring Tape, Gloves

1. The 10 screws on each set of scissors will already be loose when shipped. **Figure 24.1.**
2. Expand scissors to desired height. Tighten screws to hold in place using Phillips Head screwdriver. **See Figure 24.2.**
3. Measure front and side trims to required height to cover scissors and mark pieces for cutting. Cut excess material from top of trims edge, not bottom. This edge will be sharp; wear gloves to prevent injury to your hands. **Figure 24.2.**
4. Using sheet metal shears, cut trim along the marked edge. The cut edge fits under lip of top trim, so it allows for some variance in your straight edge.
5. The double-sided tape that holds front and side trims to scissors has a particularly powerful bonding adhesive. Adjustments are extremely difficult once trim has adhered to tape. Do a dry run first without removing paper from tape.
6. Place cut edge of trim under top lip and into position on scissors. Place side pieces on first and then front piece. The front piece overlaps side pieces. NOTE: The trim in the Flush Mount Kit is one piece.
7. Once you are satisfied with the positioning, remove trim and set aside.
8. Remove the paper from double-sided tape that is to accept trim side. Align side and then press hard against tape to secure side piece. Repeat for other side. Install front trim piece last.
9. There are 3 holes in the back flange of the top to secure it to the wall if necessary. Use the appropriate fastener for the type of wall material, i.e., brick, sheetrock, etc.

   NOTE: 3/8” (9.5mm) thick tile or like material can be cut to size and fit under lip of top trim edge for a decorative touch. **Figure 24.3.**
10. Thermal protection of 1-1/2 inches (38mm), “k” value of 0.49 and R value of 3.06 under the zero-clearance trim support. **Figure 24.4.**

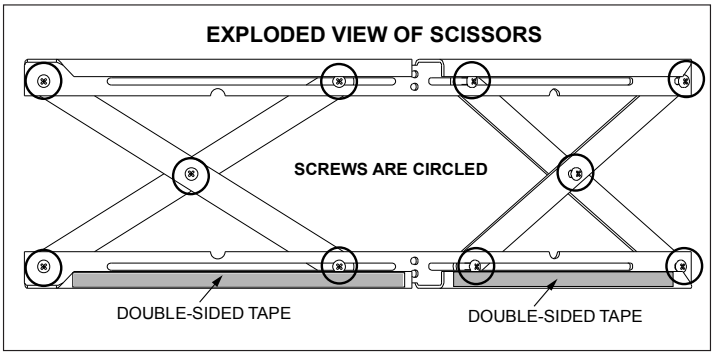


Figure 24.1

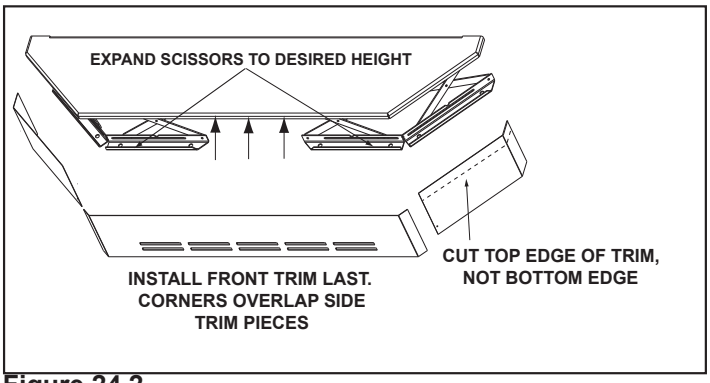

EXPAND SCISSORS TO DESIRED HEIGHT
CUT TOP EDGE OF TRIM, NOT BOTTOM EDGE
INSTALL FRONT TRIM LAST. CORNERS OVERLAP SIDE TRIM PIECES

Figure 24.2

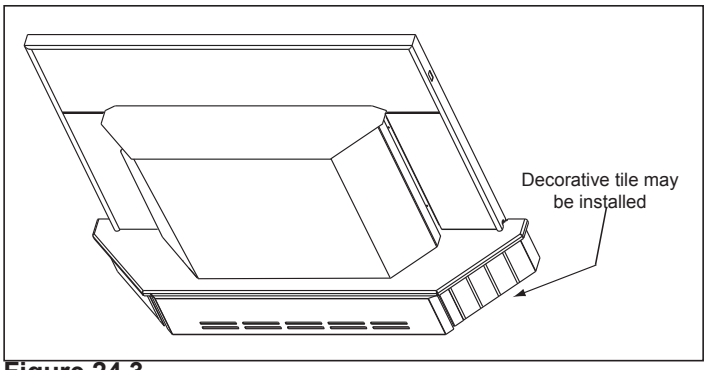


Figure 24.3

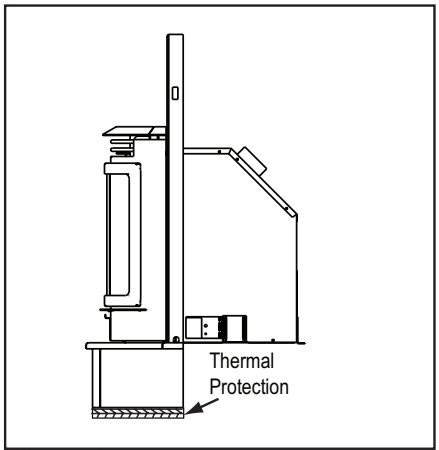


Figure 24.4

6 Mobile Home Installation

1. An outside air inlet must be provided for combustion and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while unit is in use to prevent room air starvation which can cause smoke spillage and an inability to maintain a fire. Smoke spillage can also set off smoke alarms.
2. Unit must be secured to the mobile home structure at two attachment points. Remove bolts from each side of insert and use plumbers tape to secure to structure (a washer may be required). Re-install bolts.
3. Unit must be grounded with #8 solid copper grounding wire or equivalent and terminated at each end with N.E.C. approved grounding device.
4. The factory-built fireplace must meet (UM)84-HUD requirements for outside combustion air supply to the fireplace fire chamber and the chimney must be listed to UL103 HT or a listed UL-1777 full length six inch (152mm) diameter liner must be used. It must be equipped with a spark arrestor cap and the outside air must be installed on the insert.
5. Refer to **pages 7-8** of this manual for clearance to combustibles and floor protections requirements. All clearances must be followed precisely.
6. Use silicone to create an effective vapor barrier at the location were the chimney or other component penetrates to the exterior of the structure.
7. Follow the chimney and chimney connector manufacturer's instructions when installing the flue system for use in a mobile home.
8. Burn wood only. Other types of fuels may generate poisonous gases (e.g., carbon monoxide).
9. If unit burns poorly while an exhaust blower is on in home, (i.e., range hood), increase combustion air.
10. Installation shall be in accordance with the Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24.

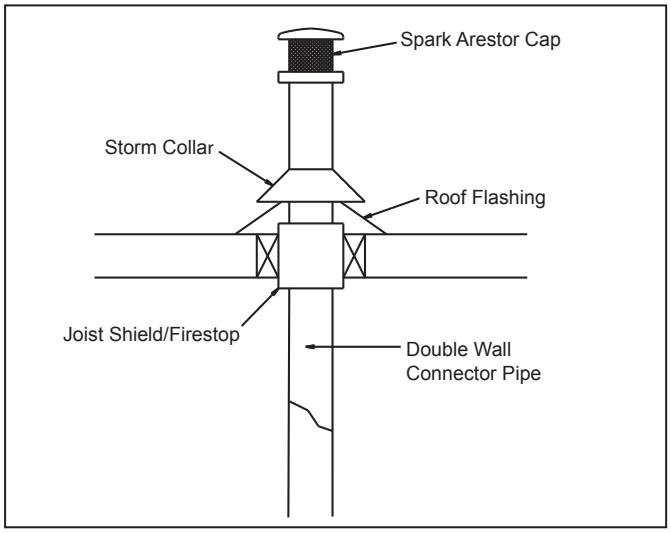


Figure 25.1

NOTICE:

- Offsets from the vertical, not exceeding 45°, are allowed per Section 905(a) of the Uniform Mechanical Code (UMC).
- Offsets greater than 45° are considered horizontal and are also allowed, providing the horizontal run does not exceed 75% of the vertical height of the vent.
- Construction, clearance and termination must be in compliance with the UMC Table 9C. This installation must also comply with NFPA 211.

NOTICE: Top sections of chimney must be removable to allow maximum clearance of 13.5 feet (411cm) from ground level for transportation purposes.

WARNING

Asphyxiation Risk.

- NEVER INSTALL IN A SLEEPING ROOM.

Consumes oxygen in the room.

WARNING

Fire Risk.

Asphyxiation Risk.

Do not draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage
- Close proximity to exhaust vents or chimneys.

Fumes or odor may result

CAUTION

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED
Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses.
- Any supporting material that would affect the structural integrity.

7 Accessory List

ACCESSORIES				
	Adjustable Hearth Support - 12 in x 50 in, 2-10” H		ADJSPT-12	
	Side Panel (W/Blower)	Black	SDPNL-31I-BK	
		Gold Trim	SDPNL-31I-GD	
		Nickel Trim	SDPNL-31I-NL	
	Surround, Large	51” x 34”	SP-31IACC-LRG	
	Surround, Standard	43” x 31”	SP-31IACC-STD	
	Component Pack		SRV7044-036	
	Surround Trim Assembly 43 X 31	Black	TRIMKIT-4331-BK	
		Gold	TRIMKIT-4331-GD	
		Nickel	TRIMKIT-4331-NL	
	Surround Trim Assembly 51 X 34	Black	TRIMKIT-5134-BK	
		Gold	TRIMKIT-5134-GD	
		Nickel	TRIMKIT-5134-NL	
FASTENERS				

QUADRA-FIRE

NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
1445 North Highway
Colville, WA 99114
Division of HNI INDUSTRIES

Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.

We recommend that you record the following pertinent information for your 31-I ACC WOOD STOVE

Date purchased/installed: _____

Serial Number: _____ Location on appliance: _____

Dealership purchased from: _____ Dealer phone: _____

Notes: _____

_____

_____

_____

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH & HOME technologies